

birds bear out this statement in even a more pronounced manner than Mr. Clark's, and are as follows:—

	Wing.	Tail.	Exposed culmen.	Tarsus.
	mm.	mm.	mm.	mm.
♂ . . . . .	103	104	22	24
♂ . . . . .	105	92	23	25
♂ . . . . .	105	93	22	26
♀ . . . . .	100	92	22	24
♀ . . . . .	97	87	23	25
♀ . . . . .	97	87	22	25
♀ . . . . .	95	82	23	24
Juv. . . . .	88	76	24	24.5

Some of the tails of my examples were very worn.

#### QUISCALUS INSULARIS.

*Quiscalus insularis* Richmond, Proc. U.S. Nat. Mus. xviii. p. 675 (1895); Clark, Auk, xix. p. 265 (1902).

*a-d.* ♂s et ♀. Jan. 6, 1904. [R. B. S.]

*e.* ♂ ad. March 21, 1906. [P. R. L.]

This is a larger bird than *Q. lugubris*.

XXXI.—*On the Breeding-habits of the Rosy Gull and the Pectoral Sandpiper.* By S. A. BUTURLIN, F.M.B.O.U. (Communicated by H. E. DRESSER.)

(Plate XII.)

[MR. S. A. BUTURLIN has recently sent me specimens of the young in down of the Pectoral Sandpiper and the Rosy or Cuneate-tailed Gull in order that I might exhibit them, and, if possible, have them figured; they are, I believe, the first examples of these birds ever obtained in that stage of plumage. I therefore exhibited them on his behalf at the meeting of the British Ornithologists' Club on the 19th of June last (see Bull. B. O. C. xix. p. 109), and, owing to the courtesy of the Editors of 'The Ibis,' I am now able to give figures of both.

Mr. Buturlin, in his article on the "Breeding-grounds of the Rosy Gull" ('Ibis,' 1906, pp. 334-336), has given very



West. Newman imp.

1. RHODOSTETHIA ROSEA, pull.

2. TRINGA MACULATA, pull.

full particulars respecting the nesting-habits and the young in down of *Rhodostethia rosea*, and it is therefore unnecessary to repeat them here; with regard to the Pectoral Sandpiper, however, he has sent me voluminous notes respecting the nesting-habits and young in down, from which I have extracted the following details.—H. E. D.]

THE Pectoral Sandpiper (*Tringa maculata*) was first noticed by me on the 29th of May, 1905, at the earliest appearance of the Arctic spring, as I was slowly making my way with tired and hungry dogs from the Great Baranoff Cape westward to the mouth of the Kolymá, on the sea-ice. It appeared in flocks of from twenty to forty individuals, flying swiftly in one continual line from the east, uttering a somewhat harsh call, “*twee, twee, twee,*” or “*teeleé, teeleé, teeleé,*” or, when alarmed, “*teer, leer, leer, lee.*”

During the last days of May and the first days of June it was very numerous near Pokhodscoe on the portions of the low islets where the old grass was already free from snow. Single birds were very hard to flush, and when they rose uttered a “*cheep, cheep, cheep,*” and a whistling note not unlike that of a Snipe; but the majority of the birds were in flocks of from ten to a dozen individuals, and though somewhat shy were by no means difficult to approach within gun-range, while, the cover being scanty, I could observe them well with my powerful binoculars. They would fly from one place to another in parties, and run swiftly, like so many mice, here and there in the old grass. One would every now and then stretch both wings right over its back, and afterwards commence a grotesque sort of dance, hopping alternately on each leg; another would inflate its gular pouch and run about, crouching down to the ground, or would fly up to about a hundred feet in the air, then inflate its pouch and descend slowly and obliquely to the ground on extended wings. All these performances were accompanied by a strange hollow sound, not very loud when near, but audible at some distance, even as far as five hundred yards. These notes are very difficult to locate, and vary

according to the distance. When near they are tremulous booming sounds something like the notes of a frog, and end in clear sounds like those caused by the bursting of water-bubbles in a copper vessel. I tried on the spot to reproduce this sound as “*khrrrrrr-poo.*” At a distance it appears louder, resembling a harsh “*kokók, kokók, dooi, dooi, dooi, dooi,*” or a growling “*kwa-kwa-kwa-kwa,*” or, again, a hollow and tremulous “*kooroó-kooroó-kooroó-kooroó.*” At a greater distance the first harsh notes are inaudible, and only the final, clearer, notes are heard, resembling the syllables “*dooá-dooá-dooá-dooá,*” or simply “*doo-doo-doo-doo-doo,*” which reminded me of the sound made by a horse when stamping on the ground.

After the 4th of June the Pectoral Sandpipers disappeared from the neighbourhood of Pokhodskoe and scattered themselves over the open tundra, occupying the low flat parts of the western side of the valley as well as the higher eastern portion. In the first week of July I observed many in grassy places near the Gullery with various other Waders, but of these *Tringa maculata* was by far the most numerous. I did not, however, succeed in finding any of the nests, and evidently the birds had all hatched their eggs, as the young were about, accompanied only by the females. When approached the breeding-ground the old birds flew to meet me, one after another, and wheeled around uttering low tremulous notes of various kinds.

These calls were evidently meant for the young, and had different meanings. When the female is with them (and you must sit watching for an hour or more to observe this), the little ones are somewhat shy and take refuge under her. If you make the slightest movement she flies up, uttering the usual *kirip*, and kicks the young forwards, never backwards, until they tumble head over heels five or six inches away. There they lie as if dead, but with open eyes, and the mother flies around uttering a low tremulous “*kirip, kirip, trip, trrrrrr,*” evidently meaning “lie quite still.” Then she alights near the young and runs about feigning lameness, while trying in every way to make you attempt to capture

her. If, however, you keep quite quiet she becomes reassured, approaches near to where her young are, and utters with tender modulations "day-day-day, day-day-day," which means evidently "all right, come here." Then the chicks commence to chirp "peep, peep, peeyp," and run to their mother. On one occasion I observed all this at a distance of about ten paces, and once I was only about three paces from them. The downy young know their mother's call "day-day-day" so well that on one occasion a young bird, which I was taking home in my butterfly-net, when it heard a female call quite close to me, climbed out of the net to rejoin her.

The young in down have the legs and feet pale jasper-grey with a slight tinge of lilac, the joints being rather darker; the basal fourth of the bill is coloured like the legs, while the remaining three-fourths are lead-grey; the eyes are brown.

On the 19th, 23rd, and 25th of July I found many Pectoral Sandpipers in the wet grassy places on the high tundra near the eastern mouth of the Kolymá, and even then all the young were not fully fledged. Here, on the 22nd of July, I obtained the first young bird, which could fly heavily but had still down adhering to the plumage, and a second specimen on the 25th of July. In August the young birds were more numerous, and during the last week of that month, at the western mouth of the Kolymá, they were migrating up the river in flocks, sometimes in company with *Tringa acuminata*. Similar flocks were seen on the 9th of September on the great Nerpichie or Seal-lake on the western low tundra, but after that they were rarer, and the last that I saw near Pokhodskoe was on the evening of the 20th of September, when the ground was white with snow and my thermometer shewed 0°·3 C. during the day, falling to 4°·8 C. in the evening. The next day the rivulets were frozen.

#### EXPLANATION OF PLATE XII.

Fig. 1. Chick of the Rosy Gull (*Rhodostethia rosea*).

2. Chick of the Pectoral Sandpiper (*Tringa maculata*).